

## Article

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## ORIGINAL RESEARCH ARTICLE

### Students' perceptions of the educational value of Twitter: a mixed-methods investigation

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It has been suggested that Twitter can be used in healthcare education to enhance active engagement and access to information. However, there is limited information regarding students' perceptions of this platform as a pedagogical tool. This study explored the perceptions of final-year undergraduate physiotherapy students in relation to a dedicated Twitter feed that was used to support learning throughout the academic year. A mixed-methods design was utilised. A total of 33 students participating in pre- and post-surveys and two focus groups (super users and novice users) provided rich data regarding value perceptions. The results indicate that the Twitter feed was a positive addition to teaching/education and provided insights in three themes: digital literacy, educational experience and professional identity. Twitter appeared to add value to the students' educational experience via peer-assisted learning, collaboration and connectivity. Professional identity awareness can impact students' Twitter activity; therefore, consideration regarding the enhancement of self-confidence and active engagement within this platform is recommended.

**Keywords:** Twitter; student perceptions; physiotherapy; engagement; teaching; education

## Introduction

There is a growing trend to use social media as part of healthcare education (Cheston, Flickinger, and Chisolm 2013), which has been linked to the necessity to ensure digital professionalism among learners (Gagnon and Sabus 2015). Therefore, professionalism training should be embedded throughout the healthcare curriculum (O'Regan, Smithson, and Spain 2018). The use of social media can facilitate the modelling of professional behaviours within the online environment (Kind *et al.* 2014), with digital professionalism encompassing the development of professional identity, values, actions and behaviours (Kaczmarczyk *et al.* 2013). Appropriate guidelines and policy are well recognised as a requirement to navigate the ethical and professional issues that may arise from social media use (Chretien and Kind 2013). This may be an issue in younger healthcare students who can sometimes find it difficult to enforce appropriate boundaries in relation to their personal and professional lives, leading to potential breaches in professionalism (Kaczmarczyk *et al.* 2013). Nevertheless, although this is

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highlighted as an area of potential concern, professional issues arising from the use of social media for educational purposes are not evident in the literature (Cartledge, Miller, and Phillips 2013).

Despite these apprehensions, active engagement with social media enables students to develop professional networking and communication skills, encourages engagement out of hours, provides links to additional learning materials and develops skills relevant to employability (Legaree 2015; Smith and Lambert 2014). These behaviours are essential for the development of digital literacy capabilities, which have been identified as a priority by Jisc (2014). Consequently, these technologies can be used to enhance learning outcomes (Legaree 2015) and they can promote self-directed, lifelong and life-wide learning (George and Green 2012).

Social constructivist pedagogy, collaborative learning and social learning frameworks underpin the use of social media for healthcare educational purposes (Flynn, Jalali, and Moreau 2015; Ruckert *et al.* 2014). These theories identify that active engagement, social interaction and reflection are essential to facilitate learning. Within medical education there is a small body of evidence regarding the efficacy of social media in education, particularly associated with learner satisfaction, knowledge, attitudes and skills (Cheston, Flickinger, and Chisolm 2013). This is further supported by Cartledge, Miller, and Phillips (2013), who reported positive satisfaction and enhanced engagement with these sites for educational purposes. This blended approach to educational practice is well received due to the enhanced communication, increased accessibility, exposure and interactivity with the students (Smith and Lambert 2014). Twitter, in particular, has been perceived as applicable to and appropriate for educational content, as well as being received positively by the learners (Bahner *et al.* 2012; Webb *et al.* 2015). Conversely, some barriers have also been identified with regard to the use of Twitter as an educational tool. These relate to the quality and quantity of information (Choo *et al.* 2015) and the reluctance of users to engage due to issues such as perceived lack of knowledge or subordinate status (Lackovic *et al.* 2017).

The growing body of evidence within this field has predominately focused on medical and nursing education; the value of Twitter as an educational tool has not yet been fully explored with other healthcare students. This study, therefore, aimed to explore the potential of Twitter as an educational tool within physiotherapy education and addressed the following question: Can Twitter be used as a teaching tool to enhance the educational experience of undergraduate physiotherapy students?

The aims of this research were the following:

- (1) To identify how physiotherapy students are currently using social media (both personally and in an academic professional context to support learning)
- (2) To share information and model professional behaviours using a targeted Twitter feed
- (3) To enable students to evaluate the use of Twitter to support their learning experience
- (4) To assess the potential value of Twitter as an educational tool in undergraduate physiotherapy education

## Methodology

This study is underpinned by a constructivist stance, recognising that learning in this context is gained from collaboration and social interactions. The methodology

is grounded in social constructionism, emphasising the acquisition of knowledge through the use of language and conversation (Andrews 2012; Cresswell 2013, p. 8), with learning occurring as a result of the communication and interactions of those participating in using the specified social media. This philosophical stance is the foundation for the study design.

### ***Study design***

To address the study aims, a mixed-methods design was selected. This enabled the collection of quantitative data through survey and qualitative data through focus groups. The choice of focus groups reflects the social constructionist approach in both the data collected and the means by which data are collected.

The mixed-methods design received ethical approval from the Institute of Learning and Teaching ethics committee at the appropriate university.

### ***Recruitment and sample***

The research project was presented to a cohort of students by a team of three researchers. The module leader was part of the research team but, in order to reduce bias, was not the principal investigator. Students were assured that their participation was voluntary and it would not affect their module marks. Each individual wishing to participate was required to provide written consent. A cross-sectional sample of final year undergraduate physiotherapy students ( $n = 33$ ) was recruited for the study. The participants were subsequently, purposively sampled for the focus groups from this initial sample. This is discussed further in the 'Data Collection' section.

### ***Procedures***

During academic year, 2016–2017, the cohort of students were directed to a Twitter feed designed to supplement teaching and learning for one specific module that spanned the academic year. The module syllabus covered a variety of professional and multidisciplinary team issues within the wider context of physiotherapy practice. A variety of information and formats were tweeted based on the pedagogical principles of maximising student engagement (Dhir, Buragga, and Boreqqah 2013; Flynn, Jalali, and Moreau 2015; Osgerby and Rush 2015; Ruckert *et al.* 2014). These included; organising the tweets into weekly themes related to the module learning outcomes, tweeting reminders associated with forthcoming taught sessions or assignments, tweets to emphasise key learning points, links to recommended resources, quoting and retweeting from key organisations. Tweetchats were incorporated to facilitate assignment support that aimed to encourage student engagement, active learning and support through interactions with peers. Tweetchats are a thematic multilogue that permits an unlimited number of participants to contribute simultaneously, thereby allowing wider engagement (Megele 2014). Participation in this activity requires increased cognitive and critical thinking skills to access, process and engage within the digital content (Hitchcock and Young 2016) and therefore it has the potential to enhance learning and collaboration.

All students were able to access this feed either through their own smartphones or through the university electronic Blackboard system, which ensured that no student was disadvantaged regarding access to the learning material. The tweets were in the

public domain as this was deemed appropriate to model effective online professional behaviour. A short training session was provided to ensure that the cohort of students have access to Twitter and were orientated to its key features and functional abilities.

### ***Data collection – survey***

A baseline survey was administered to the whole cohort prior to the introduction of the Twitter feed at the start of their academic year. This survey (S1) collected data related to social media usage and preferences in line with the first aim of the study. At the end of the academic year, a follow-up survey (S2) was administered to evaluate the students' learning experience regarding the dedicated Twitter feed (aims 3 and 4). The surveys were modified versions of the tool used by Bahner *et al.* (2012), with the addition of evaluation questions using Likert scales. S1 and S2 were piloted and validated against the research aims via independent peer review; questions that were not deemed to address the research aims were removed from the survey. A scoping survey using open questions was administered during semester 1 to provide an insight into the students' initial responses to the Twitter activity and was used to facilitate the development of the focus group question schedule.

### ***Data collection – focus group***

Six months after the implementation of the Twitter feed, two focus groups were undertaken to explore the students' experience in greater depth. Participants were purposively sampled from S1 respondents; subjects in the first group were considered novice users (NU) of Twitter and the second group were experienced users or super users (SU). The NU group participants were identified as having none or low previous frequency of Twitter use in comparison to the SU group who reported high frequency of use.

The focus group question schedule was developed from a scoping survey conducted mid-semester 1. The focus group questions were designed to explore the students' perception of Twitter in relation to their learning, the value, barriers and enablers regarding the educational experience (see Box 1). Both focus groups were asked the same questions and were facilitated and observed by the same researchers to provide consistency. All discussions were audio recorded.

A summary of key discussion points was verbally reported back to the group by an observing researcher; this allowed member checking as the students were able to validate the accuracy of the interpretation.

### ***Data analysis***

The quantitative data arising from surveys were analysed using descriptive statistics (Statistical Package for the Social Sciences (SPSS) 24 software).

The focus group discussions were transcribed verbatim and the data were analysed using a thematic analysis approach (Vaismoradi, Turunen, and Bondas 2013). A reflexive approach was adopted throughout the data analysis.

Using NVivo software to support, organise and analyse the qualitative information, the transcript data were coded independently by two researchers. After completion of the initial coding, the reviewers compared their analysis; the agreed codes

Box 1. Focus group question schedule

**Introduction question (10 min)**

Can you in general terms tell me what you think about social media?  
How would you describe your relationship with social media in terms of frequency of use and how you use it?

**Transition question (5 min)**

Before the start of year 3 what are your general impressions regarding Twitter?

**Key questions (45 min)**

Tell me about your experiences of the twitter feed in relation to the module?  
Thinking back about the university twitter feed, do you feel that it has had any impact on your learning for the module?  
Thinking back to the university twitter feed was there anything in particular you most valued from it that supported your learning?  
Is there anything that you do not like about twitter, either our account or in more general terms?  
If you could change one thing about the university twitter feed, what would you change and what is the main reason for this change?  
Have there been any key facilitators or barriers to this twitter account?  
Do you feel that Twitter can be used to enhance your learning?

**Exit questions: (5 min)**

Is there anything that we should have talked about but didn't?  
Is there anything else you would like to add about twitter in general or how it used in the module?

were reviewed against the data to ensure that each data item had been given equal attention and that all data had been accounted for. Revisions to codes were discussed and agreed upon where necessary. The coding process was thorough, inclusive and comprehensive. In the second phase of analysis, the researchers independently collated the coded data into emerging themes. Theme definitions were discussed at length until consensus was achieved and the research team were satisfied that the full data set had been analysed. In line with the social constructionist philosophy, interactions and agreements between the participants, as well as individual contributions via review of the field note observations, were analysed. The primary data were placed alongside the themes to demonstrate rigour of the analytical process and trustworthiness of the findings. The final opportunity for analysis took place during the production of the written report, during which key themes emerging from the data were interpreted to address the research question.

**Results and findings**

The cohort of students consisted of 33 students (10 males and 23 females). All consented to participate in the study. The age range of the students was as follows: 18–23 years ( $n = 31$ ) and 24–29 years ( $n = 2$ ). Three students were lost to follow-up due to non-attendance when the S2 data were collected.

### Quantitative data analysis

The frequency of use of social media platforms before and after exposure to the dedicated Twitter feed is shown in Tables 1 and 2. There was an increase of 46% in the use of Twitter professionally at the end of the academic year (Table 2).

The mean and standard deviations of the post-module evaluation (S2) are shown in Table 3.

Table 1. Frequency of social media use for social purposes.

Frequency of use	Pre-survey S1 % ( <i>n</i> = 33)			Post-survey S2 % ( <i>n</i> = 30)		
	Twitter	Facebook	Instagram	Twitter	Facebook	Instagram
Never	61	6	18	40	10	17
Less than 1 × day	18	0	3	30	0	0
1 × day	6	3	12	7	10	20
2–4 × day	6	30	24	7	20	33
Greater than 5 × day	9	61	43	16	60	30

Table 2. Frequency of social media use for professional purposes.

Frequency of use	Pre-survey S1 % ( <i>n</i> = 33)			Post-survey S2 % ( <i>n</i> = 30)		
	Twitter	Facebook	Instagram	Twitter	Facebook	Instagram
Never	76	33	76	30	57	84
Less than 1 × day	9	56	15	40	37	13
1 × day	6	9	3	17	3	3
2–4 × day	6	0	6	13	0	0
Greater than 5 × day	3	3	0	0	3	0

Table 3. S2 Evaluation responses regarding the university Twitter account post-module using a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree/disagree, 4 = agree and 5 = strongly agree), mean and standard deviations.

Item	Evaluation Questions	Mean/SD
Q1	The Twitter feed provided me with useful information regarding the module	4.14/0.97
Q2	The Twitter feed supported my learning throughout the module	3.78/0.95
Q3	The Twitter feed facilitated my ability to write my module assignments	3.57/0.92
Q4	The assignment support <i>Tweetchat</i> supported my learning	3.75/1.14
Q5	The Twitter feed has enhanced my learning experience for this module	3.67/0.98
Q6	The Twitter account should be continued to support third year learning	4.21/0.70

### Qualitative data findings

The NU focus group consisted of seven participants (five females and two males, all aged 18–23 years) and the SU focus group consisted of six participants (one male and three females aged 18–23 years and one male and one female aged 24–29 years).

Three major themes relating to the research question were identified from the focus groups. These included issues related to digital literacy, educational experience and professional identity, which are discussed next.



### *Digital literacy*

Having had previous experience of Twitter, the SU were confident and competent regarding functionality and accessibility via different electronic devices such as laptops, smartphones, iPads and computers:

...it's dead easy isn't it. It's accessible on everything isn't it. Your phone, we've got our iPads so we've got it on that. It's everywhere isn't it? (SU 2)

There was a strong feeling that Twitter was easy to use and allowed participants to organise, store and access resources in a timely manner. The SU students reported that it was more convenient than the university electronic Blackboard system as it was so accessible.

Easy access as well.....it's easier to read on your phone rather than having to faff about with VITAL. (SU 3)

This accessibility fostered a sense of community and sharing of information, which was expressed by both groups of students as they were happy to 'reach out' and keen to gain information from other Twitter users.

I think it's good. I like it, but I have used it for quite a while...and from a physio perspective as well, it's quite good to follow a range of different people. (SU 1)

I think it is good....because we are more aware of the bigger picture of the physio world and a lot more [of the] common topics as a physiotherapist. (NU 6)

However, not all the NU students shared this sense of confidence, as expressed in the following quote:

I don't feel that I have made the most of it either really just because I am not familiar with it so I don't feel as confident or comfortable. (NU 2)

This reluctance to get involved was partially due to the knowledge and skills required to use this platform and partially due to concerns regarding what others might think. Another student commented on the assumptions that underpinned this educational activity:

I think the main negative for me of it though was the assumption that we would all know how Twitter works and how it is used and how much of a powerful tool it is. (NU 1)

### *Educational experience*

In this study, the NU group recognised that their lack of confidence with the platform limited their ability to become more actively engaged with the discussion elements generated by the teaching team and therefore limited their educational experience.

I think I was more reluctant and tended to be more of an observer on Twitter because I don't really know what it is all about. (NU 1)



Conversely, the SU group appeared to recognise the benefits of actively engaging and reviewed a lot of information that was posted:

...the stuff is always relevant that you put on and interesting so it's not just a post for the sake of a post. (SU 2)

The inclusion of the Tweetchat (focusing upon assignment support) was an area that students particularly valued. They appreciated discussing and sharing relevant information and the enhanced perception of peer support due to the increased levels of engagement with Twitter from the other students.

I think it was good as well...because the assignment was like a critical discussion, because Twitter is a like a discussion based thing, everyone was giving different sides to an argument. (SU 4)

...that two-way communication is a lot more interesting than you just posting. (NU 5)

This active-peer assisted learning was clearly evident and valued within both the NU and SU groups:

I think it was quite exciting when you found something that was good yourself, you were like oh let me put it on Twitter so everyone else can find it. (SU 2)

I think one of the motivations for me to use it is the contributions from all of peers, you and lecturers as well. (NU 4)

Interestingly, the students appeared to fully trust the information that the teaching team provided, indicating a lack of critical thought regarding the trustworthiness of the tweets:

... we take your word for it when you post something. (SU 2)

I find it really useful the lectures posting stuff because you know it is relevant and up to date. (NU 5)

### *Professional identity*

The introduction of Twitter, as an educational tool, provided a social media platform to support professional activities. In order to 'protect' a sense of professional identity, the majority of the group elected to separate their personal and professional personas online. It allowed the students to maintain a sense of privacy as this account was purely for the 'professional' aspect of their lives.

I had a previous Twitter account, which I have deactivated and made a new professional one...just because I think if you are going down that angle, it's for networking then it's more professional isn't it? (SU 2)

I don't use it to socialise with friends and things. I use Facebook for that... (NU 3)

Within the NU group, many of the students indicated a lack of awareness of the professional potential of Twitter prior to this study:

I was surprised how big it was within Physiotherapy; I didn't know that Twitter was used that much professionally...it seems our profession has really embraced it. (NU 1)

As the students used this platform, they acknowledged the benefits of sharing professional knowledge and creating connections:

If you've got a specific area of physio that you enjoy you can follow relevant people to that area and then you are keeping yourself up to date with what's going on in that area for new research coming out and stuff like that. (NU 6)

It's been quite good to try to read up on evidence-based stuff like MSK [musculoskeletal] and my dissertation was quite helpful. I was in contact with a couple of people whose papers I had read...they answered a few questions. (SU 5)

## **Discussion**

Data in Table 1 and 2 indicate that a variety of social media platforms are being used socially and professionally. Over the study period there was very little change in the frequency of use reported for social purposes. Despite Twitter being 12 years old, it appears that only 32% of 15–24-year-olds use Twitter within the UK (Ipsos, n.d.). The S1 data indicate that at baseline the percentage of physiotherapy students using Twitter reflects the UK statistics for this age group and other reported studies regarding healthcare students (Giordano and Giordano 2011; Lackovic *et al.* 2017). Despite a growing trend in the use of social media, the figures regarding Twitter have remained relatively unchanged for several years. The results of this study indicate that the students' use of Twitter for professional purposes increased, suggesting a positive surge in students' engagement with this platform post-exposure to the dedicated Twitter feed. Interestingly the students reported a decline in the use of Facebook for professional purposes over the study period. The researchers hypothesised that the exposure to the wider professional community via Twitter has prompted the students to revise what they considered professional use on the Facebook platform.

The students positively evaluated the Twitter feed throughout this module (Table 3). However, this was not a compulsory element and despite the availability of Twitter on the electronic Blackboard system, a minority of the cohort (30%) could not be persuaded to participate with Twitter for professional use. The reasons given by this minority of students for their lack of engagement included 'not liking the Twitter format' and not having their own Twitter account. Further insights regarding the value, educational experience and barriers to engagement were explored through the focus group discussions.

## **Digital literacy**

Digital literacy skills are fundamental for students to engage with a wide range of resources to enhance their educational experience (Jisc 2014). Prior to the study, the researchers had assumed that the students would be relatively familiar with the platform and therefore would embrace it readily. This bias was related to the average age of the students and the perception that they would have technological expertise. However, the adoption of technologies among university students is influenced by complex interdependencies and students may have a limited understanding of how

technology can support learning (Margaryan, Littlejohn, and Vojt 2011). Therefore, when considering the introduction of any new technology for an educational purpose, care should be taken to avoid the assumption that the students are already engaged or willing to engage.

When implementing Twitter as part of an educational programme, all students need to be familiar, confident and assured with the platform prior to engaging in structured and unstructured learning activities. The findings indicate that the confidence to use this platform is a key area of digital literacy that could be enhanced with the students on the undergraduate physiotherapy programme. During the introduction to this dedicated Twitter feed, the students were given some instruction about the functionality of Twitter; however, this was limited. When attempting to use social media, as an educational tool in higher education, training is an essential requirement (Legaree 2015) to enhance confidence and engagement.

Jisc (2014) defined digital literacy as looking beyond the functional IT skills to a richer set of digital behaviours, practices and identities. One such behaviour is the building of online communities, potentially allowing a diversity of opinion that can be beneficial for enhancing patient-centred care (Choo *et al.* 2015). Exposure to the knowledge and experience that can be gained by interactions with the public, students and experienced healthcare professionals allows a broader awareness of a range of equally valued views to enhance understanding. The SU group appeared to have a greater willingness to embrace the possibilities of this increased network and availability of knowledge. Collaboration and sharing of information is one of the key benefits of using social media (Legaree 2015). Although the students did not tend to tweet proactively, connectivity with the wider professional community and networking within this environment were identified. Both student groups highlighted and valued this as a positive aspect of their experience in relation to supporting their studies; however, there was a greater consistency of opinions within the SU group.

### ***Educational experience***

Within the pedagogical frameworks of collaborative learning and social learning, active engagement is essential (Ruckert *et al.* 2014). Definitions of student engagement have gradually evolved in the higher education literature over the last 70 years (Groccia 2018). A multidimensional model that considers a complex interplay of a variety of dimensions related to the 'time and effort' spent by students on the learning activities within and beyond the classroom has been proposed (Groccia 2018). Three key domains have been acknowledged related to student engagement: behavioural, emotional and cognitive domains (Higher Education Academy 2010) – which are summarised as 'doing, feeling and thinking' (Groccia 2018).

Although the learning activities, such as the posting of questions and Tweetchats, were designed to encourage the students to be more active and participate in the discussions, this was somewhat restricted within the student group. While the SU group were already demonstrating positive behavioural engagement, it was potentially more challenging for the NU group to fully embrace this adjunct to learning due to the issues related to digital literacy.

Connectivist learning involves cognitive engagement that is essential for the students to achieve a greater sense and depth of learning (Wang, Chen, and Anderson 2014). To benefit fully from this connectivist learning opportunity, the students need

to transform their cognitive engagement to meaningful interactions. The investment of 'time and effort' may not be visible to the researchers as it is not known how many students followed the conversation or reviewed the collated information in their own time rather than contributing actively, in particular, to the Tweetchats. However, the students have perceived this reflective, cognitive activity as supporting their learning endeavours. Greater cognitive engagement is achieved via the development of networks, creating connections and innovation interactions to allow for deeper understanding (Wang, Chen, and Anderson 2014).

Students' demonstrating emotional engagement tends to show interest, participation and enjoyment related to the activity (Higher Education Academy 2010). Engagement was not directly measured within this research; however, the students themselves commented on levels of participation. Participation is motivated by extrinsic and intrinsic factors (Lizzio and Wilson 2009). Both focus groups reported that they were interested in the information, but the NUs were aware of their lack of engagement. This affective dimension is interlinked with the emotional intensity of the experience for the student (Kahu 2013). As this activity was not compulsory or directly assessed, it is assumed that the students would have been predominately internally motivated by their own enjoyment and curiosity in learning through Twitter. Therefore, it is not surprising that the SUs indicated a positive emotional engagement with Twitter due to their past experiences, whereas the NUs were not yet invested with this platform. The usefulness of Twitter is thought to be determined by the student's willingness to engage with it (Soluk and Buddle 2015) and therefore further investigation into the reasons for lack of engagement may be an area of future enquiry.

One concern raised by the researchers during the analysis was that students may trust information posted by other Twitter users that they consider either influential or trustworthy and they might not critically evaluate this information. This may be related to the suggestion that students perceive themselves as 'subordinate' within this professional domain (Lackovic *et al.* 2017). Critical discussion and debate is an essential skill to be developed and is firmly embedded within active learning principles (Ruckert *et al.* 2014). To gain full value from information provided on Twitter, it is essential that tweets are not just accepted but are considered alongside other knowledge. The ability to think independently and critically, regarding the trustworthiness of the resource, is essential during academic debates and can be developed further by the adoption of a digital information activation pedagogy approach (Lackovic *et al.* 2017). Within this approach the students are encouraged to explore and evaluate information, become active producers of content, reflect, curate and critically comment on material.

### ***Professional identity***

The issues regarding professional identity are complex. Although it was evident that students were confident in their understanding of what constitutes 'professional online behaviours', the knowledge that tweets are in the public domain was cited as one of the factors that limited active contribution. In effect, the feeling of being in the 'public eye' appeared to inhibit some students, especially within the NU group. O'Regan, Smithson, and Spain (2018) have suggested that this reluctance might stem from the predominantly cautionary advice provided to undergraduates regarding the use of social media.

Separating personal and professional use of social media has previously been reported as a means of maintaining a healthy work–life balance (Maloney, Moss, and Ilic 2014). By maintaining this degree of separation, it prevents the blurring of study and socialising, hence limiting the distraction. Conversely, by including aspects of an individual's personal lives within the feed it can add to authenticity as well as a means of expressing individual personality. The complete separation of identities is extremely difficult to achieve online; therefore, rather than considering whether content is personal or professional, it is potentially simpler to consider whether it is appropriate for a public environment (DeCamp, Koenig, and Chisolm 2013).

The Twitter feed also provided the students with a model of professional online behaviours. By providing this exposure within the educational setting, it is possible to enhance the learners' awareness of the potential positive impact they can have within the profession (Kind *et al.* 2014). The concept of modelling professional behaviours was a crucial aspect of the educational purpose of this account. Towards the end of the study there was a sense that the students were starting to recognise the potential value of a professional identity online. By developing their professional identity, individuals are operating within the wider community, influenced by the various spheres of organisational policy and professional standards (Gagnon and Sabus 2015).

### Study limitations

This was a small-scale study involving one cohort of final year physiotherapy students; therefore, the study results may not be generalisable to a larger audience from differing universities and programmes. The students were assured of the volunteer nature of the activity; however, as the researchers were part of the teaching team, this is recognised as a potential area of influence. The sampling process regarding the participation within the focus groups selected those students who demonstrated a willingness to use the platform either as a novice or as a more experienced user. Therefore, the views of those students who did not engage with this activity were not explored and were beyond the scope of this research. However, this is an area to be explored in detail in future research that considers engagement with learning opportunities within this platform.

### Conclusion

This study provides some insights into final year physiotherapy students' perceptions of the value of Twitter as an educational tool. Students' use of this platform for professional activities increased throughout the study period, and the directed Twitter feed was positively received by the majority of students. Students particularly valued opportunities to share resources, collaborate with each other (peer-assisted learning) and network with professionals in the field. However, potential barriers related to digital literacy and confidence have been exposed. The observed reluctance to tweet proactively appears to be linked with the concept of 'professionalism' and student concerns regarding their public facing profile. Despite potential barriers, there was a strong sense that Twitter added value to the students' educational experience. The development of critical evaluation skills is a key focus within the final year of undergraduate study. Students need to be encouraged to exercise a critical approach when accessing information via social media and this needs to be extended to Twitter.

Future studies may help determine ways of further enhancing self-confidence, active engagement, critical review and networking skills in this context. Overall, this small-scale study supports the view that Twitter has the potential to be used as an educational tool within healthcare education and to offer additional value to the learning environment.

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